

# USCG Auxiliary Marine Environmental Education Specialist



## Performance Qualification System (PQS) Workbook

## **Auxiliary Marine Environmental Education Specialist**

### **INTENT**

Upon successful completion of this personal qualification, a person will hold the minimum competencies to act as a Marine Environmental Education Specialist providing short duration (8 hour or less) seminars on selected Marine Environmental Protection topics to a wide range of audiences.

### **Marine Safety and Environmental Protection Training Guide Auxiliary Marine Environmental Education Specialist**

This booklet is your personal 'on the job training' guide to qualification as a Marine Environmental Education Specialist. It is your responsibility to document completed unit training items. For OJT, a person already holding this qualification code (called a verifying officer/mentor) is to review your qualifications and/or observe you perform each task and sign in the appropriate space provided in this booklet. It may be necessary to perform a task several times. The verifying officer will not give credit for any task that is not performed satisfactorily.

Multiple verifying officers may make entries in your manual. Every verifying officer/mentor must enter his or her name, rate/rank or Auxiliary qualification, signature, and initials in the Record of Verifying Officers section. When you have completed all of the items required by your command for this qualification, your command will issue a letter of designation.

## Auxiliary Marine Environmental Education Specialist

### Marine Environmental Education Specialist (MEES) Training Requirements:

*(Optional items may be accepted in lieu of the standard\*)*

	Date Completed	Verifying Officer
A. Completion of training courses (attach copy of completion certificates):		
1. Complete Introduction to Marine Safety and Environmental Protection Course		
2. Complete the Good Mate Course ( <a href="http://www.trainersoft.net/coastguardcollege/">http://www.trainersoft.net/coastguardcollege/</a> )		
3. Read Understanding Water Pollution (materials available from G-MOR-1)		
4. Complete Aquatic Nuisance Species Training ( <a href="http://www.cgaux.org/cgauxweb/MSEP/ANStrain.pdf">http://www.cgaux.org/cgauxweb/MSEP/ANStrain.pdf</a> )		
5. Complete Hazardous Materials: A Citizens Guide, FEMA EMI course IS-5 ( <a href="http://training.fema.gov/EMIWEB/crslist.htm">http://training.fema.gov/EMIWEB/crslist.htm</a> )		
6a. Complete USCG Auxiliary Instructor Training (IT), <b>OR</b>		
6b. Complete USCG Instructor Development Course		
B. Oral board (unit level)		
C. Completed package with documentation submitted to Training Officer/Coordinator for review		

*All qualification requirements have been satisfactorily completed.*

\_\_\_\_\_  
Training Officer/Coordinator      Date

### Record of Verifying Officers:

<i>Date:</i>	<i>Name/Signature:</i>	<i>Initials:</i>	<i>Rate/Rank/Office:</i>

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### References:

The following references will aid you in completing the majority of tasking in this manual:

- **Marine Safety Manual Vol. 9** COMDTINST M1600.14 Series, available on line at <http://www.uscg.mil/hq/g-m/nmc/pubs/msm>.
- **Good Mate Manual**, Study Guide and Video, available from ANSC (order stock #4027, #4028, #4077) or the course is available online at <http://www.trainersoft.net/coastguardcollege>
- **Aquatic Nuisance Species Training Guide**, available on line at <http://www.cgaux.org/cgauxweb/MSEP/ANStrain.pdf>
- **Understanding Water Pollution**, Jennifer Sevin, Officer Snook Water Pollution Program, 7-Dippity, Inc. Coral Gables, FL, available from G-MOR-1
- **Environmental Impacts of Recreational Boats**, available form ANSC (order stock # 4035)
- **Hazardous Materials: A Citizens Orientation**, FEMA Emergency Management Institute, course #IS-5, available at <http://training.fema.gov/EMIWEB/crslist.htm>
- **Oil in the Sea III**, National Academy of Science, 2002 Oil in the Sea III is available from the National Academy Press; 2101 Constitution Avenue, N.W., Lockbox 285, Washington, DC 20055; 800-624-6242; available online at <http://www.nap.edu>.
- **EXXON VALDEZ: Ten Years After**, brochure published by G-MOR, available online at <http://www.uscg.mil/hq/g-m/insert.pdf>
- **Ocean Steward**, United States Coast Guard, Office of the Commandant, G-OPL-4, Washington, DC, (<http://www.uscg.mil/hq/g%2Dopl/mle/oceansteward.pdf>).

**SECTION 1 - KNOWLEDGE OF POLLUTION ISSUES**

<i>Task No.</i>	<i>OJT Task</i>	<i>Date Completed</i>	<i>Verifying Officer's Initials</i>
<b>CORE CONCEPTS AND DEFINITIONS</b>			
MEE1	General Ecology (define the following concepts and describe how they relate to the understanding of marine/aquatic environmental protection):		
	a. Biodiversity	_____	_____
	b. Climax community and the process of succession	_____	_____
	c. Ecology	_____	_____
	d. Ecosystem	_____	_____
	e. Environment	_____	_____
	f. Niche	_____	_____
	g. Food chain (web of life)	_____	_____
MEE2	Marine/Aquatic Ecology (define each concept and describe its importance to understanding the ecosystems in your AOR):		
	a. Biological Stratification	_____	_____
	b. Estuary	_____	_____
	c. Eutrophication	_____	_____
	d. Flowing water and standing water environments	_____	_____
	e. Ghost Fishing	_____	_____
	f. Invasive Species	_____	_____
	g. Submerged aquatic vegetations (SAV)	_____	_____
	h. Water stratification (column)	_____	_____
	i. Water (Hydrologic) Cycle	_____	_____
	j. Watershed	_____	_____
	k. Wetland	_____	_____
	l. Zone of Light Penetration	_____	_____
MEE3	Water Quality Parameters (define each parameter and describe its importance to marine/aquatic environmental quality in your AOR)		
	a. Biochemical Oxygen Demand (BOD)	_____	_____

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<i>Task No.</i>	<i>OJT Task</i>	<i>Date Completed</i>	<i>Verifying Officer's Initials</i>
	b. Dissolved Oxygen (DO)	_____	_____
	c. Nitrification	_____	_____
	d. pH	_____	_____
	e. Salinity	_____	_____
	f. Suspended solids	_____	_____
	g. Temperature	_____	_____
	h. Turbidity	_____	_____
	i. Coliform bacteria	_____	_____
MEE4	Pollution and Pollution Mitigations Terms (Define each of the following terms and describe their importance to your AOR)		
	a. Adsorbent/Absorbent	_____	_____
	b. Black-water and Grey-water	_____	_____
	c. Biodegradable	_____	_____
	d. Best Management Practices (BMP)	_____	_____
	e. Emulsion	_____	_____
	f. No Discharge Zone	_____	_____
	g. Point/Non-Point Source Pollution	_____	_____
	h. Photodegradable	_____	_____
	i. Sheen	_____	_____
MEE5	Describe the three (3) types of marine sanitation devices (MSDs), including the requirements for various sized vessels, proper use, and operation in coastal/inland areas, no-discharge zones and beyond 3 nm.	_____	_____
MEE6	Explain the basic garbage dumping restrictions and placard requirements (33 CFR 151).	_____	_____
MEE7	Explain the purpose of the National Response Center, (describe how to report a spill or incident and what information to provide) give the spill reporting number, and describe the reporting requirement.	_____	_____
MEE8	Describe restrictions and recommendations when approaching and	_____	_____

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	observing marine mammals in the wild.		
MEE9	Explain the basic steps a recreational boater should take to prevent the spread of aquatic nuisance species from one body of water to another.		

### SECTION 2 - KNOWLEDGE OF LAWS AND REGULATIONS AND THE COAST GUARD'S ROLE IN POLLUTION PREVENTION

MEE10	Demonstrate a basic knowledge and application of environmental protection laws and regulations administered by the US Coast Guard (USCG) and by the US Environmental Protection Agency (USEPA) (see Marine Safety Manual, Volume 9, Marine Environmental Protection Manual, COMDTINST M16000.14):		
a.	APPS (Act to Prevent Pollution from Ships of 1980)		
b.	ABA (Abandoned Barge Act 1992)		
c.	CERCLA (Comprehensive Environmental Response, Compensation and Liability Act)		
d.	CVA (Clean Vessel Act of 1992)		
e.	CWA (Clean Water Act)		
f.	ESA (Endangered Species Act)		
g.	FWPCA (Federal Water Pollution Control Act)		
h.	MARPOL (International Convention Governing the Prevention of Pollution from Ships)		
i.	MMPA (Marine Mammal Protection Act)		
j.	MPPRCA (Marine Plastic Pollution Research and Control Act of 1987)		
k.	MPRSA (Marine Protection, Research, and Sanctuaries Act of 1972)		
l.	NANPCA (Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990)		
m.	NISA (National Invasive Species Act of 1996)		
n.	OPA 90 (Oil Pollution Act of 1990)		
o.	PTSA (Port and Tanker Safety Act of 1978)		
p.	PWSA (Ports and Waterways Act of 1972)		

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<i>Task No.</i>	<i>OJT Task</i>	<i>Date Completed</i>	<i>Verifying Officer's Initials</i>
	q. Refuse Act	_____	_____
MEE11	Explain the basic elements of the Coast Guard's role in marine environmental protection:		
	a. Prevention	_____	_____
	b. Preparedness	_____	_____
	c. Response	_____	_____
MEE12	Describe the purpose of the USCG Ocean Steward, Ocean Guardian and Ocean Protector Strategic Plan and explain how the plan's four strategies are being implemented in your AOR.	_____	_____
MEE13	Briefly describe the Coast Guard and Auxiliary's role in a hazardous materials incident.	_____	_____
<b>SECTION 3 - PRACTICAL APPLICATION</b>			
MEE14	Develop and present at least three MEE public education training sessions in any of following areas		
	a. Sea Partners (general)	_____	_____
	b. Clean Boating	_____	_____
	c. Clean Marina	_____	_____
	d. Aquatic Nuisance Species	_____	_____
	e. Hazardous Materials Awareness	_____	_____
	f. Coast Guard Roles and Responsibilities	_____	_____
MEE15	Organize, participate in, or otherwise support a shoreline cleanup. Alternatively, visit a local marina to identify Best Management Practices and the environmental impacts from poor practices for fueling, sewage handling, potable water systems, vessel repair and safety using a clean marina checklist.	_____	_____



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## NOTES

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